TECHNICAL EXHIBIT
IN SUPPORT OF
COMMENTS AND COUNTERPROPOSAL
IN THE NOTICE OF PROPOSED RULE MAKING IN
MB DOCKET NO. 02-136
AMENDMENT OF SECTION 73.202(b), TABLE OF FM ALLOTMENTS
THE DALLES, OREGON AND KENT, WASHINGTON

Technical Narrative

This technical narrative and associated exhibits have been prepared on behalf of FM stations KMCQ, channel 283C, The Dalles, Oregon and KAFE, channel 282C, Bellingham, Washington and First Broadcasting Company, L.P. (herein "Joint Parties") in support of comments and a counterproposal (herein "Counterproposal") in the Notice of Proposed Rule Making in MB Docket No. 02-136 (herein "NPRM"). The NPRM proposed the reallotment of channel 283C from The Dalles, Oregon to Covington, Washington, reclassification from Class C to C3 and the modification of the license of KMCQ on channel 283C at The Dalles, Oregon accordingly (BLH-19990512KA). The NPRM also requests the allotments of channel 283C1 to Moro, Oregon, channel 261C2 to Arlington, Oregon and channel 226A to Trout Lake, Washington as first local aural service transmissions. The NPRM was issued in response to the petition for rule making (herein "Petition") filed jointly by KMCQ and First Broadcasting, Company, L.P.[1]

By this instant counterproposal, the Joint Parties propose to modify their initial proposal by changing the city of license from Covington, Washington to Kent, Washington and the allotment channel from 283C3 to 283C2. In addition, it is proposed to substitute channel 281C for channel 282C at Bellingham, Washington and to modify the license of KAFE on channel 282C at Bellingham accordingly. Furthermore, it is

[1] Footnote 8 of the NPRM indicated that there may be a site obstruction in the radial path between the Covington site and the city of Covington. However, based on examination of terrain in the area and discussion with the FCC staff prior to release of the NPRM, it is apparent that the FCC's software used to analyze the terrain in this instance is incorrectly retrieving terrain. To illustrate, Figure 13 is a terrain profile based on a 3-second terrain database from the Covington site and the Covington reference point which indicates that the intervening terrain is essentially flat and that there are no major obstructions.

proposed to substitute channel 288A for channel 280A at Forks, Washington and modify the license of KLLM on channel 280A at Forks accordingly. No other changes are proposed, including no change in the proposed allotments of channel 283C1 to Moro, Oregon, channel 261C2 to Arlington, Oregon and channel 226A to Trout Lake, Washington as first local aural service transmissions.

The following is a summary of the counterproposal:

- The city of Kent, Washington (2000 Census population 79,524) will be provided with its first local aural transmission service and The Dalles, Oregon (2000 population 12,156) will not be deprived of its sole "existing" local service as there are three FM and two AM assignments at The Dalles, namely, FM stations KMSW, channel 224C3 and KACI-FM, channel 249C2, a vacant FM allotment on channel 268C3, and AM stations KACI, 1300 kHz and KODL, 1440 kHz.
- Although Kent is located within the Seattle Urbanized area as defined by the 1990 U.S. Census, as detailed elsewhere in this Petition it is believed that Kent warrants a first local service preference.
- The number of persons within the KMCQ 1 mV/m contour will increase from 92,556 persons to 2,963,440 persons, and there will be a "net" increase in 1 mV/m coverage to 2,943,191 persons.
- Moro, Oregon with a 2000 Census population of 337 persons, has no other local aural services. The Joint Parties proposal would, therefore, bring a first local aural service to Moro.
- Arlington, Oregon with a 2000 Census population of 524 persons, and has no other local aural services. The Joint Parties proposal would, therefore, bring a first local aural service to Arlington.
- Trout Lake, Washington (CDP) with a 2000 Census population of 494 persons, has no other local aural services. Joint Parties proposal would, therefore, bring a first local aural service to Trout Lake.
- The proposal will provide service to aural white area containing 58 persons and aural grey area containing 1,362 persons.
- The proposal will not create any populated aural white or grey areas.

Proposed Change in Table of Allotments

Station KMCQ is currently licensed (BLH-19990512KA) to operate on channel 283C at The Dalles, Oregon with an

effective radiated power (ERP) of 100 kW and an antenna height above average terrain (HAAT) of 609 meters. The Dalles is located in Wasco County, Oregon and has a 2000 U.S. Census population of 12,156 persons. FM stations KMSW on channel 224C3 and KACI-FM on channel 249C2 are currently licensed and/or authorized to serve The Dalles and vacant FM channel 268C3 is allotted to The Dalles. In addition, AM stations KACI on 1300 kHz and KODL on 1440 kHz are currently licensed to serve The Dalles. Therefore, adoption of the proposal will not deprive The Dalles of its sole "existing" local service. Furthermore, adoption of the Joint Parties proposal will permit the allotment of channel 283C1 to Moro, Oregon.

Kent, Washington is located in King County and has a 2000 U.S. Census population of 79,524 persons. Kent has no local FM or AM service and, therefore, Joint Parties proposal would bring first local aural broadcast service to Kent.

Station KAFE is currently licensed (BLH-4978) to operate on channel 282C at Bellingham, Washington with an ERP of 60 kW and an antenna height above average terrain (HAAT) of 704 meters. In order to effectuate the channel 283C2 allotment at Kent, it is proposed to substitute channel 281C for channel 282C at Bellingham, Washington and to modify the license of KAFE on channel 282C at Bellingham accordingly. No change in the licensed KAFE facilities (ERP 60 kW/HAAT 704 meters) is proposed.

Station KLLM is currently licensed (BLH-19910401KA) to operate on channel 280A at Forks, Washington with an ERP of 3 kW and an antenna height above average terrain (HAAT) of -23 meters. In order to effectuate the channel 281C allotment at Bellingham, it is proposed to substitute channel 288A for channel 280A at Forks, Washington and to modify the license of KLLM on channel 280A at Forks accordingly.

Moro, Oregon is located in Sherman County and has a 2000 U.S. Census population of 337 persons. Moro has no local FM or AM service and, therefore, the Joint Parties proposal would bring first local aural broadcast service to Moro.

Arlington, Oregon is located in Gilliam County and has a 2000 U.S. Census population of 524 persons. Arlington has no local FM or AM service and, therefore, The Joint Parties proposal would bring first local aural broadcast service to Arlington.

Trout Lake, Washington is located in Klickitat County and has a 2000 U.S. Census population of 494 persons. Trout Lake has no local FM or AM service and, therefore, the Joint Parties proposal would bring first local aural broadcast service to Trout Lake.

City	Present	Proposed
The Dalles, Oregon	224C3, 249C2, 268C3, 283C	224C3, 249C2 268C3
Kent, Washington	--	283C2
Arlington, Oregon	--	261C2
Moro, Oregon	--	283C1
Bellingham, Washington	225C, 282C	225C, 281C
Forks, Washington	280A	288A
Trout Lake, Washington	--	226A

Compliance With FCC Rules

The attached Figure 1A is a tabulation of required separations pertinent to use of channel 283C2 at Kent. The reference site complies with the Commission's minimum distance separation requirements contained in section 73.207 to all existing, authorized and proposed stations and allotments with the exception of KAFE on channel 282C at Bellingham, Washington. However, it is proposed to substitute channel 281C for channel 282C at Bellingham and modify the license of KAFE, accordingly, which will eliminate this short-spacing. Operation from the reference site will provide the requisite city grade signal to all of Kent.[2]

[2] The reference site is an existing tower (tower registration number 1033375).

Figure 1B is a map showing the area to locate channel 283C2 at Kent in compliance with the Commission's minimum distance separation requirements and city coverage requirements based on maximum Class C2 facilities (ERP 50 kW/HAAT 150 m). The Kent city limits shown on Figure 1B were obtained from a map contained in the 2000 U.S. Census of Population.

Pursuant to Section 1.420(i), the Commission will consider petitions to modify the license/construction permit of an FM station to specify a new community if the proposed allotment would be mutually exclusive with the present assignment. As the Kent channel 283C2 reference point would be short-spaced to the licensed KMCQ operation on channel 283C the new allotment is mutually exclusive with the existing allotment.

The attached Figure 2A is a tabulation of required separations pertinent to use of channel 281C for KAFE at Bellingham, Washington. The existing KAFE site complies with the Commission's minimum distance separation requirements contained in section 73.207 to all existing, authorized and proposed domestic stations and allotments with the exception of KLLM on channel 280A at Forks, Washington. However, it is proposed to substitute channel 288A for channel 280A at Forks and modify the license of KLLM, accordingly, which will eliminate this short-spacing.

In addition, short-spacings are also indicated on Figure 2A towards one Canadian station and two (2) vacant Canadian allotments, namely, station CHQM-FM on channel 278C at Vancouver, BC, the vacant channel 280A allotment at Powell River, BC and the vacant channel 281A allotment at Bralorne, BC. With respect to CHQM-FM, it is requested that this proposal be coordinated with Canada as a "specially coordinated short-spaced allotment" with equivalent maximum Class C facilities (ERP 60 kW/HAAT 704 m). Figure 2B is an allocation study based on the US-Canadian FM Agreement (1991 Agreement, amended 1997) which indicates that the proposed KAFE channel 281C operation at Bellingham would be permitted with equivalent

maximum Class C facilities (ERP 60 kW/HAAT 704 meters) towards CHQM-FM as there would be no overlap of the CHQM-FM protected contour (58 dBu) and the proposed channel 281C interfering contour (98 dBu) within Canadian land area (see Section 5.2.2.4 of the US-Canadian FM Agreement).

Furthermore, as detailed elsewhere in this counterproposal, it is proposed to substitute channel 291B for the vacant channel 280A allotment at Powell River which will eliminate this short-spacing. In order to substitute channel 291B for channel 280A at Powell River, it is also proposed to substitute channel 268B for vacant channel 291B at Campbell River, BC. As also detailed elsewhere in this counterproposal, Canada's Department of Industry has indicated that it will consider "terrain shielding" to demonstrate that the proposed KAFE operation on channel 281C will not cause interference to the vacant channel 281A allotment at Bralorne. Therefore, it is requested that the proposed substitution of channel 291B for vacant channel 280A at Powell River, the proposed substitution of channel 268B for vacant channel 291B at Campbell River and the proposed use of terrain shielding towards vacant channel 281A at Bralorne be formally coordinated with Canada.

In the event that Industry Canada does not approve requested actions with respect to the vacant allotments at Powell River, Campbell River and Bralorne, the Joint Parties also propose to provide contour protection to these allotments by utilizing a directional antenna for KAFE. Specifically, a hypothetical directional antenna has been developed for KAFE from its licensed site and antenna height which limits the ERP to 29 kW in the direction of the vacant channel 280A allotment at Powell River and the vacant channel 281A allotment at Bralorne in order to provide contour protection based on the provisions of the US-Canadian FM Agreement. The maximum ERP will remain at the licensed value of 60 kW. A tabulation and polar plot of the horizontal plane relative field for the hypothetical directional antenna are attached as Figures 2C and 2D. Figure 2E demonstrates that the proposed KAFE directional operation complies with the contour protection provisions of the US-Canadian FM Agreement towards the vacant allotments at

Powell River and Bralorne as well as CHQM-FM. It is not requested at this time that the proposed KAFE channel 281C operation be formally coordinated with Canada as a "limited allotment" with the ERP limited to 29 kW in the directions of Powell River and Bralorne.

As indicated on Figure 2F, KAFE operation with either the nondirectional or directional operations (ERP 60 kW/HAAT 704 m) on channel 281C will continue to provide the requisite city grade (70 dBu) signal to all of Bellingham. As also indicated on Figure 2F, there will be no 60 dBu loss area within the US based on KAFE's proposed directional antenna operation on channel 281C.

The attached Figure 3 is a tabulation of required separations pertinent to use of channel 288A for KLLM at Forks, Washington. The existing KAFE site complies with the Commission's minimum distance separation requirements contained in section 73.207 to all existing, authorized and proposed domestic stations and allotments. Furthermore, as no change in the licensed KLLM site or facilities (ERP 3 kW/HAAT -23 meters) is proposed based on channel 288A, KLLM will continue to provide the requisite city grade signal to all of Forks.

Channel 283C1 is available for allotment to Moro, Oregon if the instant proposal to reallot channel 283 from The Dalles to Kent is adopted. Figure 4A is a tabulation of separations pertinent to use of channel 283C1 at Moro. The geographic coordinates of the reference point are also the reference point for Moro contained in the 2000 Census and, as demonstrated, compliance with the Commission's minimum distance separation requirements to all existing, authorized and proposed stations and allotments obtains. Operation from the reference site will provide the requisite city grade signal to all of Moro.

Figure 4B is a map showing the area to locate channel 283C1 at Moro in compliance with the Commission's minimum distance separation requirements and city coverage requirements based on maximum Class C1 facilities (ERP 100

kW/HAAT 299 m). The Moro city limits shown on Figure 4B were obtained from a map contained in the 2000 U.S. Census of Population.

Channel 261C2 is available for allotment to Arlington, Oregon. Figure 5A is a tabulation of separations pertinent to use of channel 261C2 at Arlington. The geographic coordinates of the reference point are also the reference point for Arlington contained in the 2000 Census and, as demonstrated, compliance with the Commission's minimum distance separation requirements to all existing, authorized and proposed stations and allotments obtains. Operation from the reference site will provide the requisite city grade signal to all of Arlington.

Figure 5B is a map showing the area to locate channel 261C2 at Arlington in compliance with the Commission's minimum distance separation requirements and city coverage requirements based on maximum Class C2 facilities (ERP 50 kW/HAAT 150 m). The Arlington city limits shown on Figure 5B were obtained from a map contained in the 2000 U.S. Census of Population.

Channel 226A is available for allotment to Trout Lake, Washington. Figure 6A is a tabulation of separations pertinent to use of channel 226A at Trout Lake. The reference point complies with the Commission's minimum distance separation requirements to all existing, authorized and proposed stations and allotments obtains. Operation from the reference site will provide the requisite city grade signal to all of Trout Lake.

Figure 6B is a map showing the area to locate channel 226A at Trout Lake in compliance with the Commission's minimum distance separation requirements and city coverage requirements based on maximum Class A facilities (ERP 6 kW/HAAT 100 m). The Trout Lake city limits shown on Figure 6B were obtained from a map contained in the 2000 U.S. Census of Population.

Urbanized Area Considerations

Kent, Washington is located within the Seattle Urbanized area. The proposed 70 dBu contour for the channel 283C2 operation at Kent will encompass 79% of the Seattle Urbanized Area. Furthermore, the reference point of Seattle is located approximately 26 kilometers north-northwest of the reference point of Kent.

Gain and Loss Areas and Available Aural Services

Figure 7, attached, is a map showing the FM 1 mV/m primary service contours for the licensed KMCQ operation on channel 283C at The Dalles, the proposed channel 283C1 allotment at Moro, the proposed channel 261C2 allotment at Arlington and the proposed channel 226A allotment at Trout Lake. Maximum facilities for each class and uniform terrain were utilized. The 1 mV/m "gain" and "loss" areas are also indicated. It is noted that areas within the 1 mV/m contours for the Moro channel 283C1 allotment, Arlington channel 261C2 allotment and Trout Lake channel 226A allotment are not considered "loss" areas.

Figure 8, attached, is a map showing the FM 1 mV/m primary service contours for the licensed KMCQ operation on channel 283C at The Dalles, the proposed channel 283C1 allotment at Moro, the proposed channel 261C2 allotment at Arlington and the proposed channel 226A allotment at Trout Lake. Also shown are other aural (AM, FM) services available to the areas within the 1 mV/m contours.[3] Figure 9 tabulates the AM and FM stations whose contours are shown on Figure 8. For FM stations the 1 mV/m contour is depicted, and for AM station KOMO the 0.5 mV/m contour is shown. The letters identify the AM and FM service contours of stations tabulated on Figure 7. Areas receiving less than five fulltime aural

[3]The determination of available reception services was based on the criteria set forth in footnote 1 of the Notice of Proposed Rule Making in MM Docket No. 96-219 (DA 96-1774; adopted October 25, 1996, released November 1, 1996).

services are identified with a number which indicates the number of available aural services.

As shown on Figure 8, the areas identified with a 1 or 2 in the gain area are currently "white" (0 aural services) and "grey" (1 aural service) areas, respectively. It has been determined that the white area within the gain area contains 58 persons and the grey area within the gain area contains 1,361 persons. Although the loss area contains white and gray areas (areas labeled with a 0 or 1 on Figure 6), it has been determined these areas are unpopulated.

Figure 10 is a map depicting the FM 1 mV/m primary service contour for the proposed KMCQ operation on channel 283C2 at Kent. Also shown are other aural services available to the area within the 1 mV/m contour. Figure 11 tabulates the FM stations whose contours are shown on Figure 10. Only those FM services necessary to provide at least five (5) fulltime aural services to the gain area have been shown on Figure 10. Letters identify the FM service contours of stations tabulated on Figure 11. As shown, there are at least five (5) other aural services available to the gain area.

As the proposed KAFE and KLLM channel changes will not result in any change in licensed facilities, no 1 mV/m gain and loss areas will be created. Furthermore, there will be no 60 dBu loss area within the US based on KAFE's proposed directional antenna operation on channel 281C.

Population and Area within Gain and Loss Areas

Figure 12 is a tabulation of the land areas and estimated populations within the 1 mV/m FM primary service contours for the licensed KMCQ operation on channel 283C at The Dalles, the proposed KMCQ operation on channel 283C2 at Kent, the proposed channel 283C1 allotment at Moro, the proposed channel 261C2 allotment at Arlington and the proposed channel 226A allotment at Trout Lake. Also tabulated are the gain, loss and "net" gain areas and the results of the reception service analyses for these areas. Adoption of the Joint

Parties proposal will increase the number of persons within the KMCQ 1 mV/m contour from 92,556 persons to 2,963,440 persons, and will result in a "net" increase in 1 mV/m coverage to 2,943,191 persons.

Coverage Contours

The FM predicted coverage contours were calculated in accordance with the provisions of Section 73.313, except that uniform terrain was presumed in all directions.

Population and Area

The population within the FM primary service contours (1 mV/m) and gain areas were calculated using a computer program that utilizes the 2000 U.S. Census database of "population centroids". The program adds the populations of those U.S. Census designated areas whose centroid was within each service area. The area within each FM primary service contour was calculated using a root mean square algorithm.

Conclusion

Channel 283C2 can be reallotted from The Dalles, Oregon to Kent, Washington in compliance with all applicable Commission and international Rules. In compliance with all applicable Commission rules and with Canadian concurrence, Channel 281C can be substituted for channel 282C at Bellingham, Washington and the license of KAFE modified accordingly. Channel 288A can be substituted for channel 280A at Forks, Washington and the license of KLLM modified accordingly in compliance with all applicable Commission and international rules. In addition, channel 283C1 can be allotted to Moro as a result of the proposed Kent reallotment. Furthermore, channel 261C2 can be allotted to Arlington and channel 226A can be allotted to Trout Lake. The proposal will result in first local aural service to Kent, Moro, Arlington and Trout Lake. The proposal would not deprive The Dalles of local broadcast service. The number of persons within the KMCQ 1 mV/m contour will increase from 92,556 persons to 2,963,440 persons, and

there will be a "net" increase in 1 mV/m coverage to 2,943,191 persons. The proposal will provide service to aural white area containing 58 persons and aural grey area containing 1,362 persons. The proposal will not create any populated aural white or grey areas. Therefore, The Joint Parties requests the reallotment of channel 283C2 to Kent and the modification of the KMCQ license to specify operation on channel 283C2 at Kent.

W. Jeffrey Reynolds

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941)329-6000
JEFF@DLR.COM

July 25, 2002

CDBS FM SEPARATION STUDY

Job Title: Proposed KMCQ, Kent, WA
Channel: 283 C2

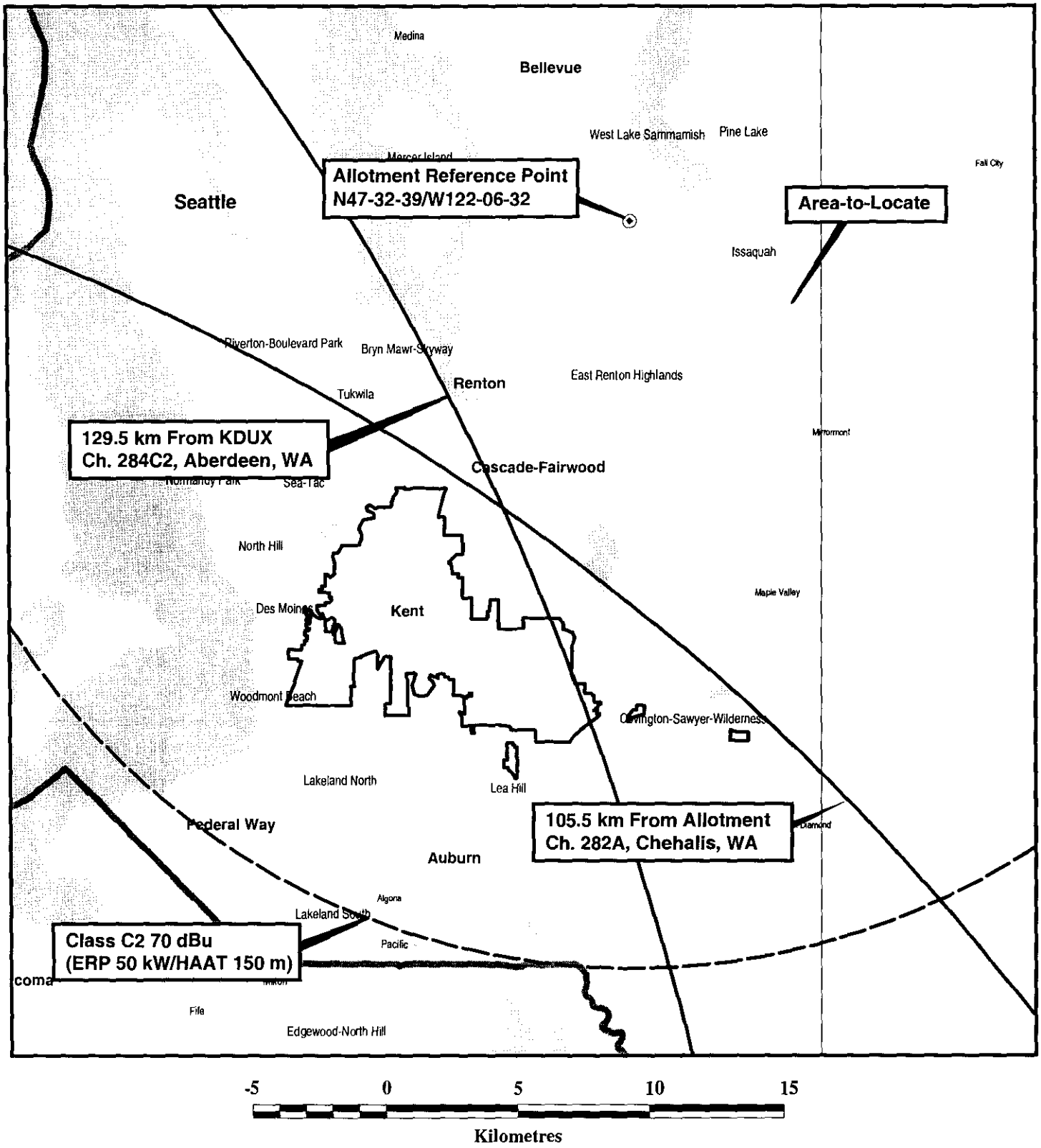
Separation Buffer: 32 km
Coordinates: 473239 1220632

Call Id	City St Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude 73 Longitude 215	Bear	Dist. (km)	Req. (km) 215	207
	CHEHALIS		282 A	0.000		46-38-57	213.4	118.89	89.0	106.0
0	WA VAC C		104.3			122-57-58		12.89	Close	
KAFE	BELLINGHAM	BLH	282 C	60.000	N	48-40-48 N	337.0	137.53	176.0	188.0
58886	WA LIC C 4978		104.3	704		122-50-24		-50.47	**Short**[1]	
KAFE	*BELLINGHAM*	*BLH*	*281 C*	*60.000*	*N*	*48-40-48 N*	*337.0*	*137.53*	*176.0*	*105.0*
58886	*WA PROPOSED*		*104.1*	*704*		*122-50-24*		*32.53*	***Clear***[1]	
	COVINGTON	RM	283 C3	0.000		47-12-02	168.7	38.96	166.0	177.0
0	WA ADD C 10458		104.5			122-00-27		-138.04	**Short**[2]	
KMCQ	THE DALLES	BPH	283 C	100.000	N	45-42-44 N	159.2	217.43	237.0	249.0
41861	OR CP C 19990512IC		104.5	609		121-06-51		-31.57	**Short**[3]	
KMCQ	THE DALLES	BLH	283 C	100.000		45-42-44	159.2	217.43	237.0	249.0
41861	OR LIC C 19990512KA		104.5	609		121-06-50		-31.57	**Short**[3]	
	MORO	RM	283 C1	0.000		45-29-38	154.7	251.28	211.0	224.0
0	OR ADD C 10458		104.5			120-43-48		27.28	Clear	
KDUX-F	ABERDEEN	BLH	284 C2	31.000	N	46-56-00 N	241.6	140.30	117.0	130.0
52676	WA LIC C 7777		104.7	110		123-43-49		10.30	Close	
KDUX-F	ABERDEEN	BMLH	284 C2	31.000		46-56-00	241.6	140.30	117.0	130.0
52676	WA LIC C 19990125KC		104.7	110		123-43-49		10.30	Close	
KKRV	WENATCHEE	BPH	284 C2	6.500	N	47-28-44 N	92.2	142.95	117.0	130.0
28635	WA CP C 20001211ADW		104.7	403		120-12-49		12.95	Close	

[1] As part of these comments and counterproposal, the licensee of KAFE proposes to substitute channel 281C for channel 282C at Bellingham and modify the license of KAFE to specify operation on channel 281C. See Technical Narrative and Figures 2.

[2] Original proposal being modified by these comments and counterproposal.

[3] Existing/authorized KMCQ site. Requested reallotment of channel 283C2 to Kent, WA is mutually exclusive with the Petitioner's current channel 283C allotment at The Dalles, OR.



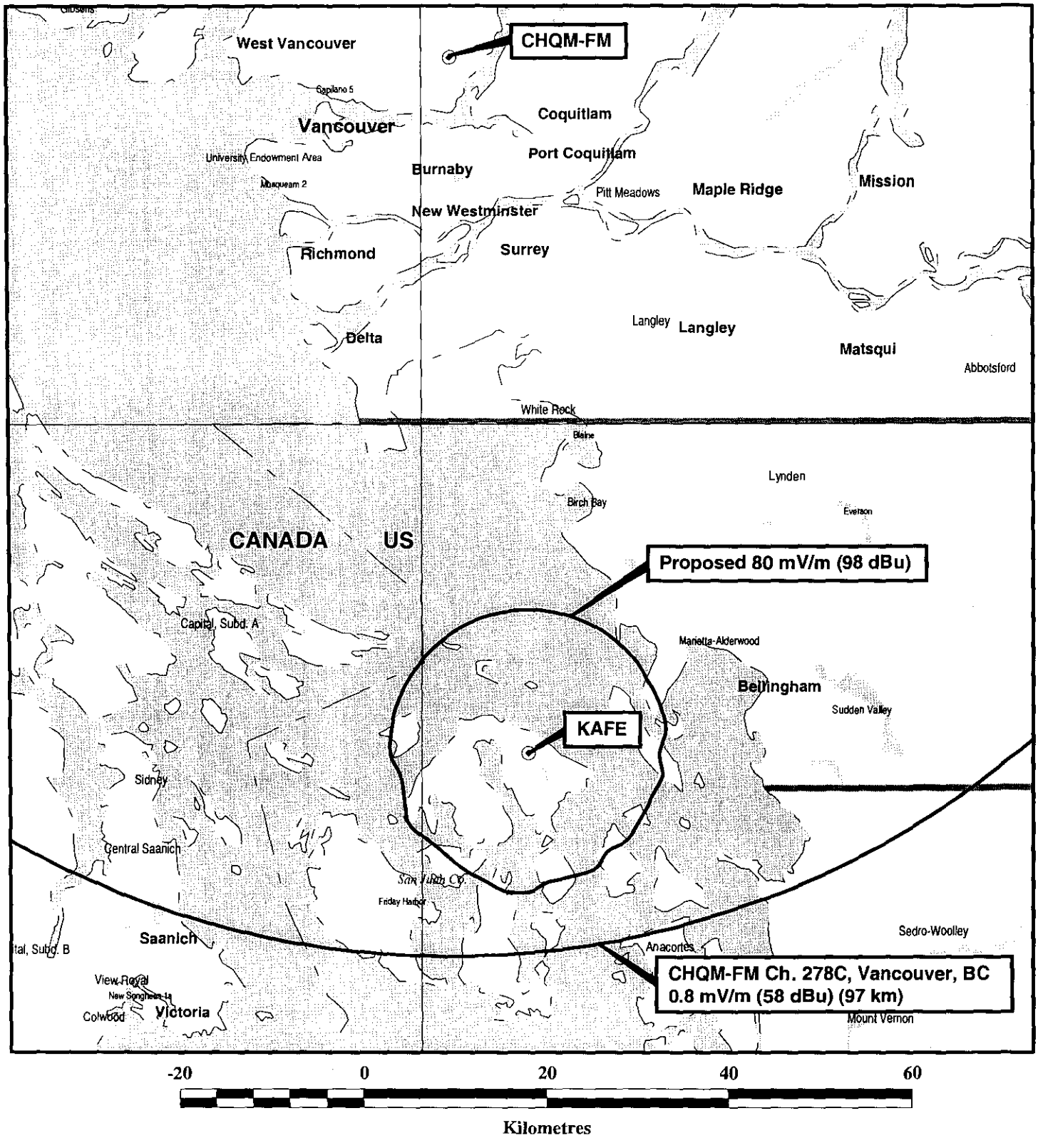
AREA-TO-LOCATE
CHANNEL 283C2
KENT, WASHINGTON

CDBS FM SEPARATION STUDY

Job Title: Proposed KAFE, Ch. 281C, Bellingham, WA Separation Buffer: 32 km
Channel: 281 C Coordinates: 484048 1225024

Call Id	City St	Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215	207
CHQMFM	VANCOUVER			278 C	100.000	Y	49-21-17	N	353.6	75.52	99.0	113.0
96719	BC	C		103.5	611		122-57-25			-37.48	**Short**[1]	
KLLM	FORKS		BLH	280 A	3.000	N	47-57-16	N	235.4	140.38	142.0	165.0
28208	WA LIC	C	19910401KA	103.9	-23		124-23-20			-24.62	**Short**[2]	
	POWELL RIVER			280 A	0.000	N	49-44-34	N	314.6	170.57	142.0	182.0
96117	BC	C		103.9			124-31-40			-11.43	**Short**[3]	
	HEDLEY		RM	280 A	0.000	N	49-12-24	N	72.7	209.95	142.0	182.0
-1	BC	C		103.9			120-05-16			27.95	Clear	
	MERITT			280 B	0.000		50-03-10		43.9	214.98	142.0	209.0
122094	BC	C		103.9			120-45-23			5.98	Close	
CIFM-3	MERRITT			280 B	0.020	Y	50-11-40	N	38.0	216.22	142.0	209.0
96112	BC	C		103.9	648		120-58-15			7.22	Close	
	MERITT			280 B	0.000		50-11-40		38.0	216.22	142.0	209.0
122092	BC	C		103.9			120-58-15			7.22	Close	
	BRALORNE			281 A	0.000	N	50-47-00	N	0.4	233.95	0.0	247.0
96729	BC	C		104.1			122-49-00			-13.05	**Short**[4]	
KAFE	BELLINGHAM		BLH	282 C	60.000	N	48-40-48	N	103.0	0.00	209.0	241.0
58886	WA LIC	C	4978	104.3	704		122-50-24			-241.00	**Short**[5]	

[1] It is requested that this proposal be coordinated with Canada as a "short-spaced", equivalent maximum Class C facility (ERP 60 kW/HAAT 704 m) with CHQM-FM. See Technical Narrative and Figure 2B.
[2] This short-spacing will be eliminated by the substitution of channel 288A for channel 280A and the modification of the license of KLLM to specify operation on channel 288A. See Technical Narrative and Figure 3.
[3] As detailed elsewhere in this counterproposal, it is proposed to substitute channel 291B for the vacant channel 280A allotment at Powell River which will eliminate this short-spacing. In order to substitute channel 291B for channel 280A at Powell River, it is also proposed to substitute channel 268B for vacant channel 291B at Campbell River, BC. Alternately, KAFE proposes to utilize a directional antenna to provide contour protection to the Powell River channel 280A allotment. See Technical Narrative and Figure 2.
[4] As detailed elsewhere in these comments and counterproposal, Canada's Department of Industry has indicated that it will consider terrain shielding with respect to the Bralorne channel 281A allotment. Alternately, KAFE proposes to utilize a directional antenna to provide contour protection to the Bralorne channel 281A allotment. See Technical Narrative and Figure 2.
[5] Existing KAFE operation. Requested allotment of channel 281C at Bellingham is mutually exclusive with KAFE's current channel 282C allotment at Bellingham.

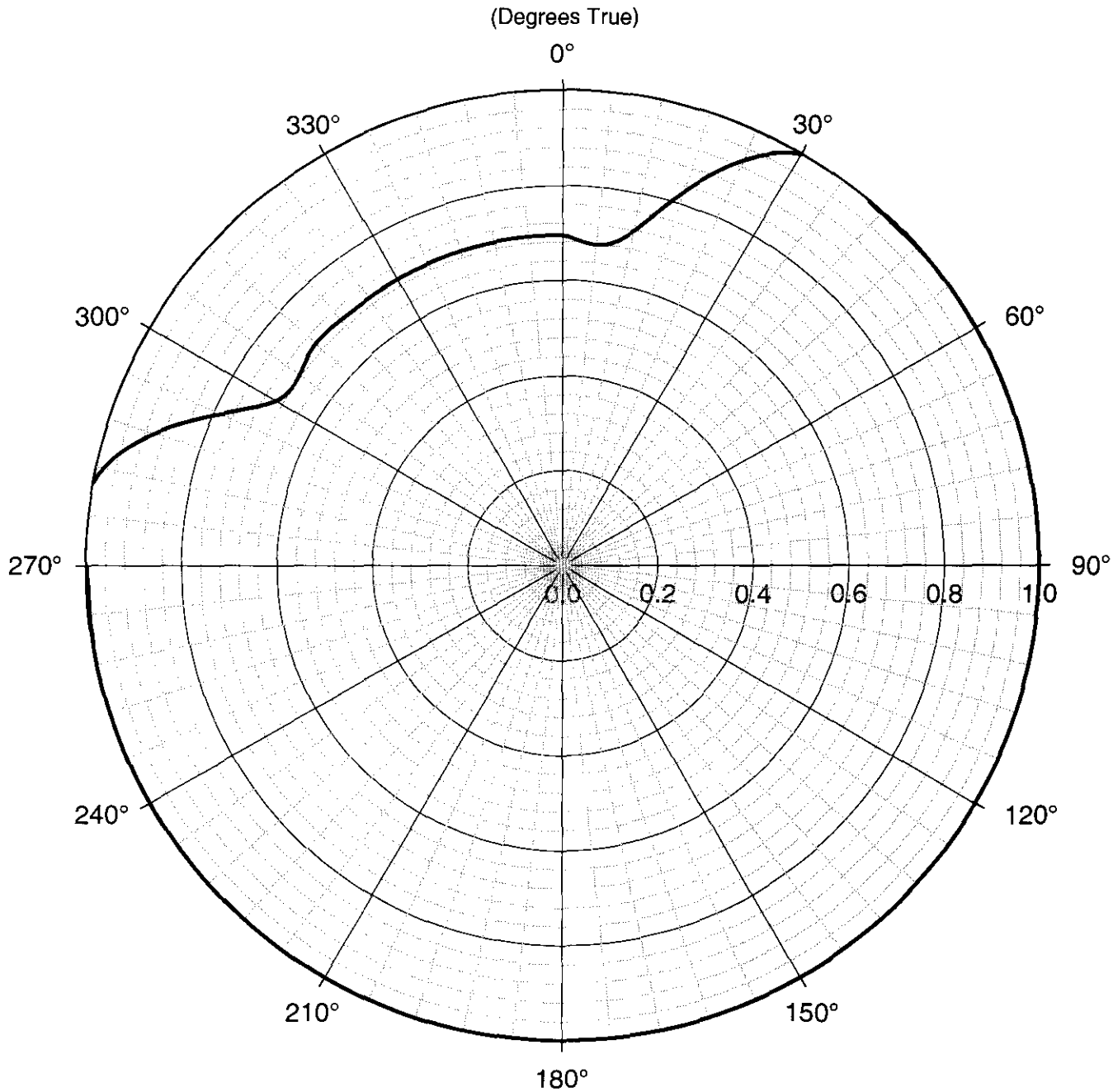


CANADIAN ALLOCATION STUDY
STATION KAFE
BELLINGHAM, WASHINGTON
CH 281C 60 KW 704 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

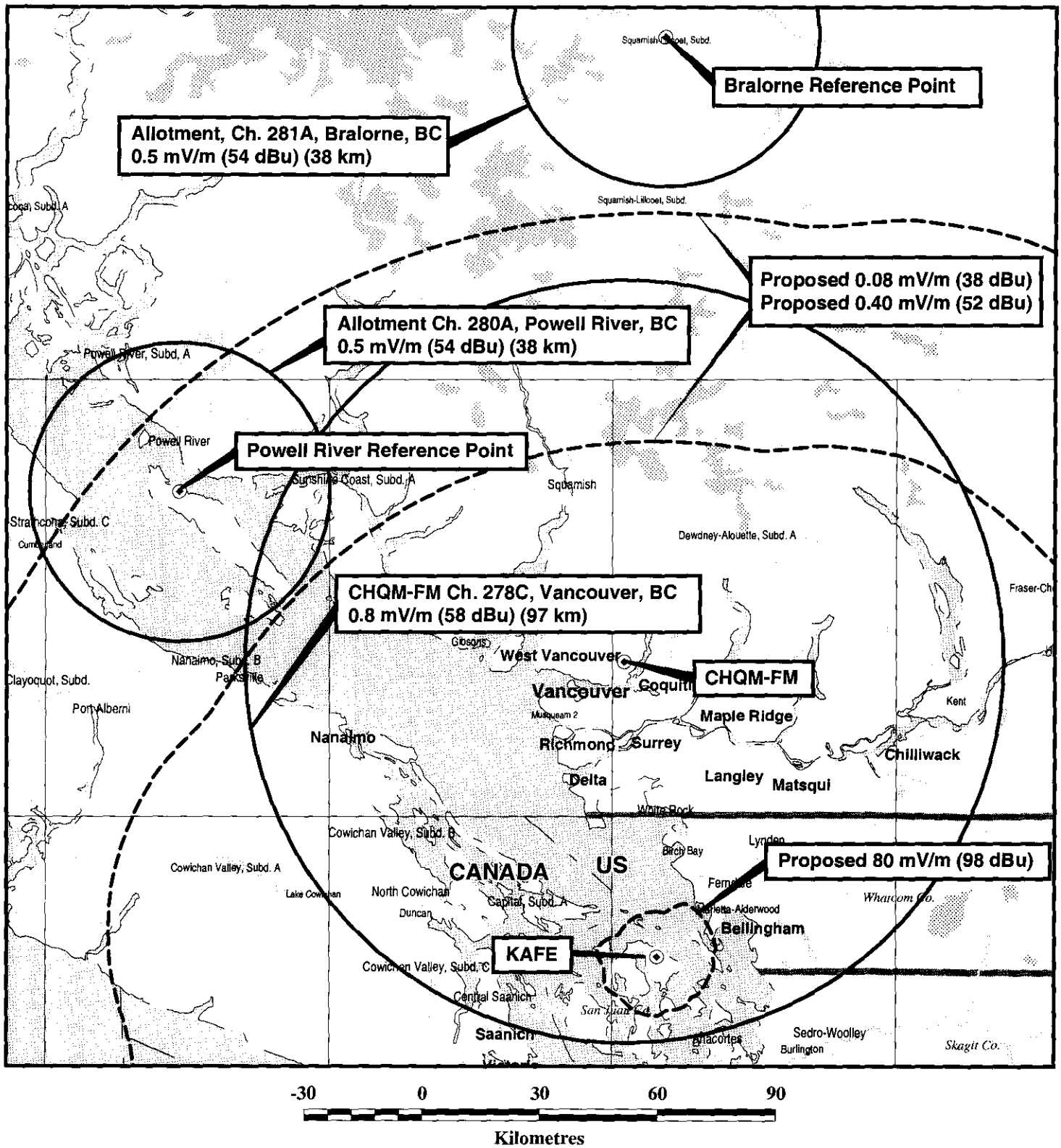
HYPOTHETICAL DIRECTIONAL ANTENNA PATTERN
KAFE, BELLINGHAM, WASHINGTON
CH 281C 60 KW (MAX-DA) 704 M

Azimuth (Deg. T)	Horizontal Plane Relative Field
0	0.695
10	0.695
20	0.866
30	1.000
40	1.000
50	1.000
60	1.000
70	1.000
80	1.000
90	1.000
100	1.000
110	1.000
120	1.000
130	1.000
140	1.000
150	1.000
160	1.000
170	1.000
180	1.000
190	1.000
200	1.000
210	1.000
220	1.000
230	1.000
240	1.000
250	1.000
260	1.000
270	1.000
280	1.000
290	0.866
300	0.695
310	0.695
320	0.695
330	0.695
340	0.695
350	0.695



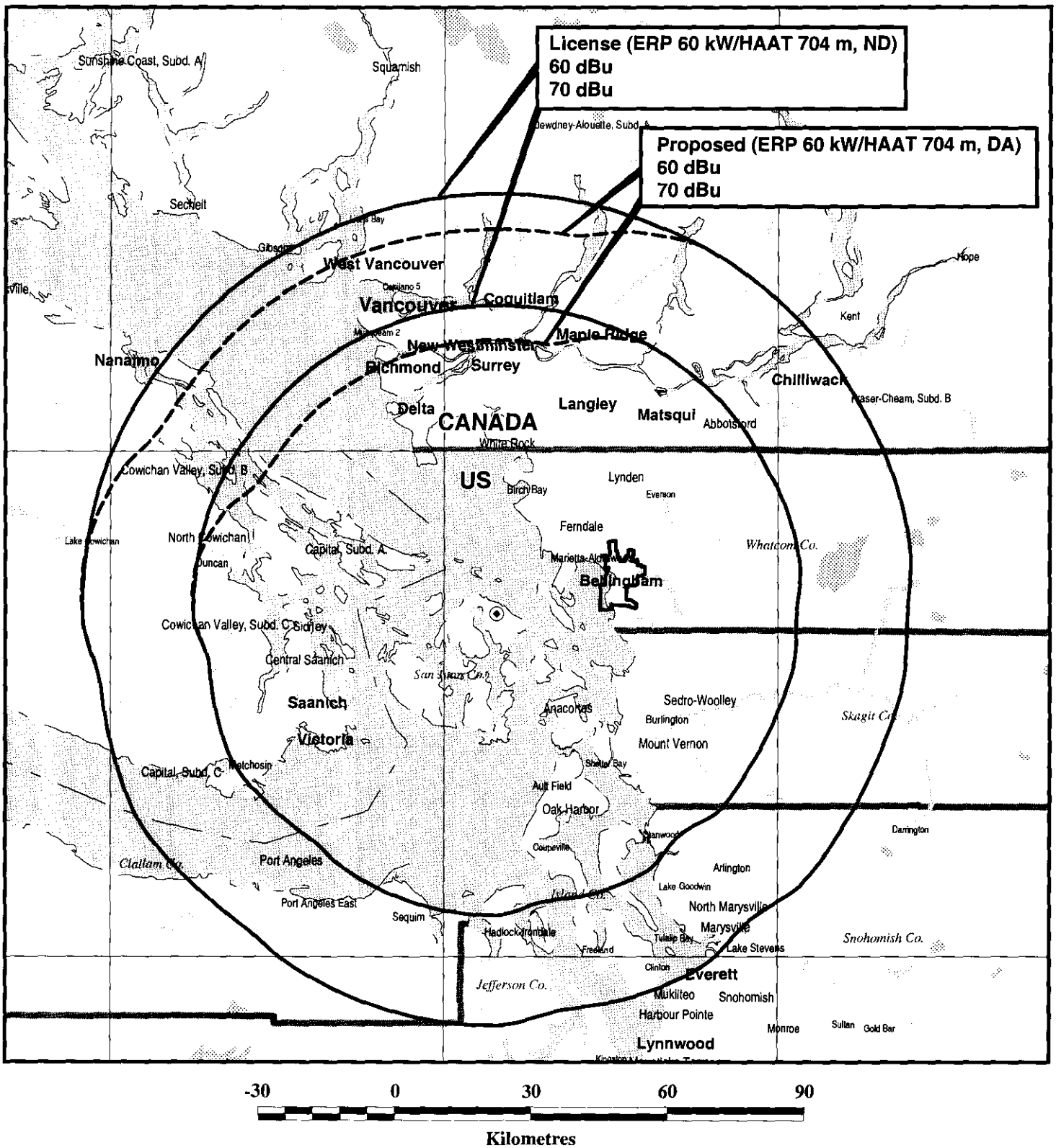
HYPOTHETICAL DIRECTIONAL ANTENNA RADIATION PATTERN
(RELATIVE FIELD)
STATION KAFE
BELLINGHAM, WASHINGTON
CH 281C 60 KW (MAX-DA) 704 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



CANADIAN ALLOCATION STUDY
STATION KAFE
BELLINGHAM, WASHINGTON
CH 281C 60 KW (MAX-DA) 704 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



PREDICTED 70 DBU AND 60 DBU CONTOURS
STATION KAFE
BELLINGHAM, WASHINGTON
CHANNEL 281C

CDBS FM SEPARATION STUDY

Job Title: Proposed KLLM, Ch. 288A, Forks, WA Separation Buffer: 32 km
Channel: 288 A Coordinates: 475716 1242320

Call Id	City St	Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215	207
	METCHOSIN E		RM	286 A	0.000	N	48-24-09	N	50.2	78.56	89.0	51.0
	BC	C		105.1			123-34-20			27.56	Clear	
	RAYMOND		RM	289 C2	0.000	N	46-55-53	N	156.3	124.01	89.0	106.0
	WA RSV C 9369			105.7			123-44-02			18.01	Clear	
CBUFM	VANCOUVER			289 C	100.000	Y	49-21-12	N	33.6	188.04	89.0	182.0
96405	BC	C		105.7	567		122-57-18			6.04	Close	
	PORT RENFRE			290 A	0.000	N	48-32-48	N	359.1	65.86	111.0	51.0
95095	BC	C		105.9			124-24-10			14.86	Close	

CDBS FM SEPARATION STUDY

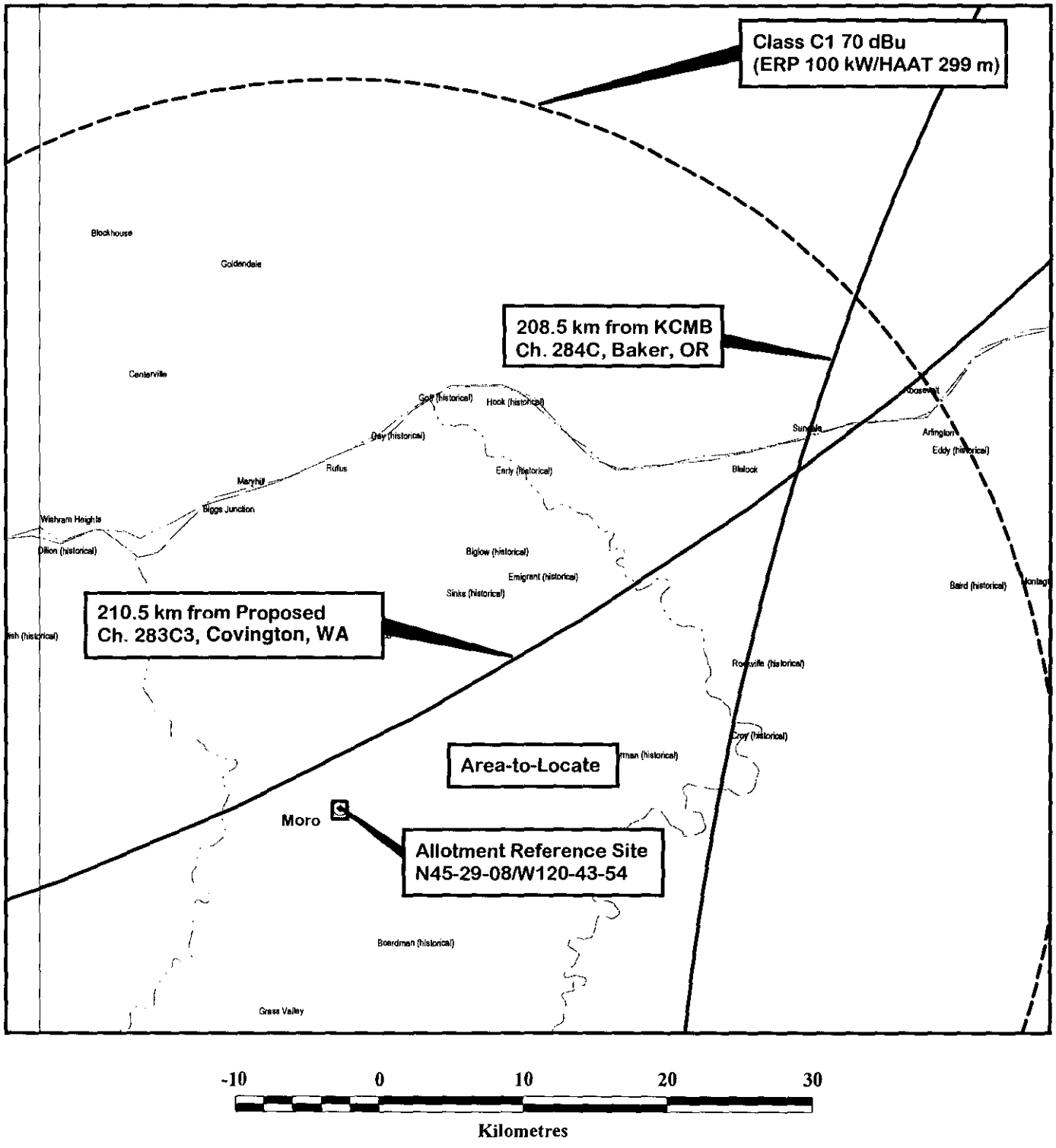
Job Title: Proposed Moro, OR
Channel: 283 C1

Separation Buffer: 32 km
Coordinates: 452908 1204354

Call Id	City St Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. min
KMCQ	THE DALLES	BLH	283 C	100.000		45-42-44		310.4	39.04	270.0
41861	OR LIC C	19990512KA	104.5	609		121-06-50			-230.96	**Short**[1]
KMCQ	THE DALLES	BPH	283 C	100.000	N	45-42-44	N	310.4	39.06	270.0
41861	OR CP C	19990512IC	104.5	609		121-06-51			-230.94	**Short**[1]
PROP	*COVINGTON*		*283C1*			*47-12-02*		*333.2*	*214.45*	*211.0*
	WA		*104.5*			*122-00-27*			*3.45*	Close
KCMB	BAKER	BLH	284 C	100.000	N	45-07-26	N	98.8	234.96	209.0
50635	OR LIC C	19880719KB	104.7	532		117-46-48			25.96	Clear
KRSK	SALEM	BMLH	286 C	100.000	N	45-00-35	N	247.8	136.75	105.0
68213	OR LIC C	19990521KA	105.1	576		122-20-17			31.75	Clear
	MOLALLA	RM	286 C	0.000		45-00-35		247.8	136.75	105.0
	OR RSV C	10072	105.1			122-20-17			31.75	Clear

[1] Existing/authorized KMCQ site. Requested reallotment of channel 283C1 to Moro, OR is mutually exclusive with the Petitioner's current channel 283C allotment at The Dalles, OR.

Figure 4B



AREA-TO-LOCATE
CHANNEL 283C1
MORO, OREGON

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

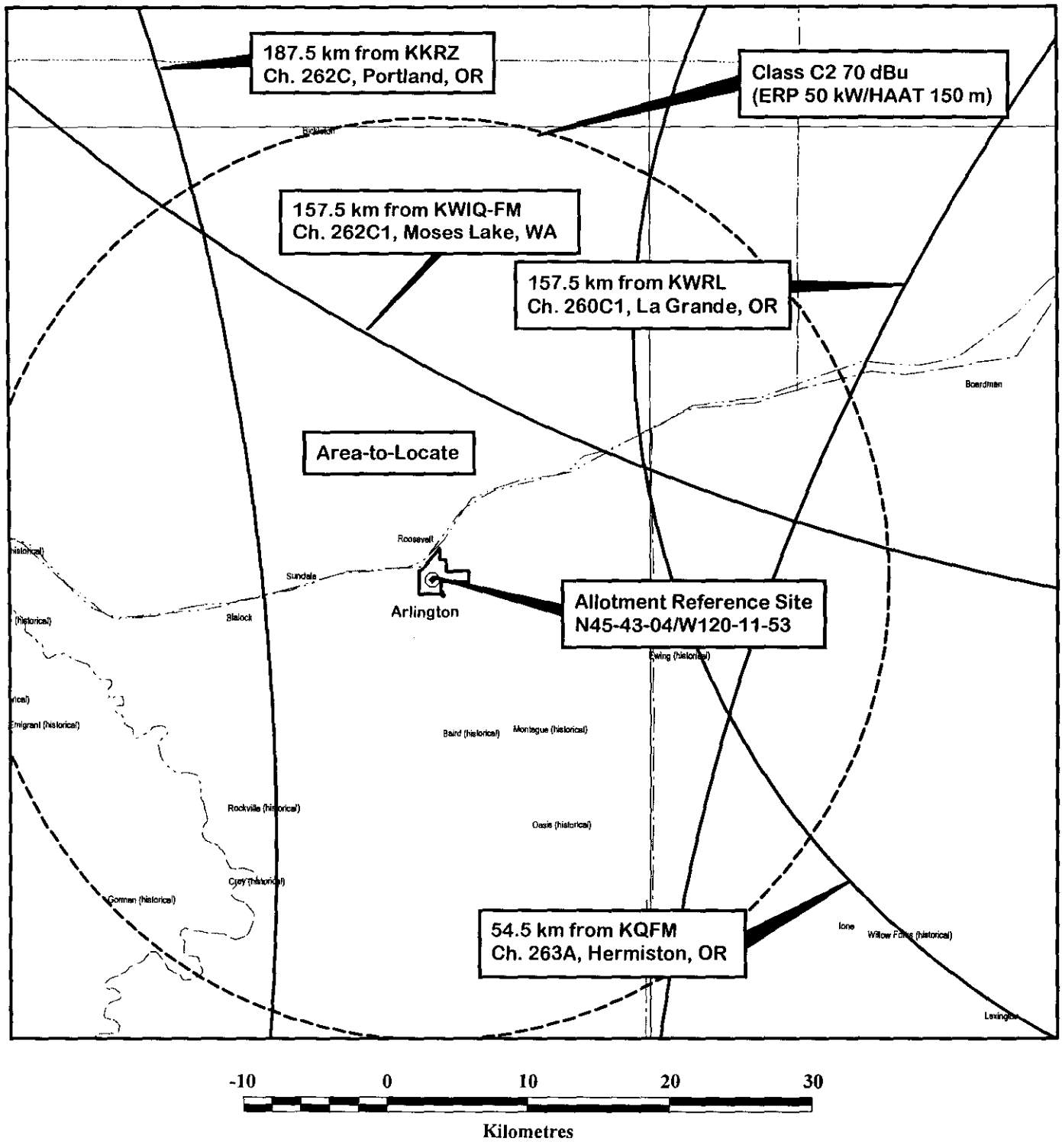
CDBS FM SEPARATION STUDY

Job Title: Proposed Arlington, OR
Channel: 261 C2

Separation Buffer: 32 km
Coordinates: 454304 1201153

Call Id	City St Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. min
KWRL	LA GRANDE	BLH	260 C1	60.000	N	45-12-59	N	107.2	180.71	158.0
24797	OR LIC C	19970805KE	99.9	115		118-00-00			22.71	Clear
KWIQ-F	MOSES LAKE	BLH	262 C1	100.000	N	47-06-09	N	25.1	170.63	158.0
35887	WA LIC C	19830627AB	100.3	59		119-14-26			12.63	Close
KKRZ	PORTLAND	BPH	262 C	100.000	N	45-31-21	N	264.7	199.89	188.0
11280	OR CP C	19991019AAH	100.3	470 28419		122-44-45			11.89	Close
KKRZ	PORTLAND	BLH	262 C	100.000	N	45-31-22	N	264.7	200.36	188.0
11280	OR LIC C	19870206KB	100.3	437		122-45-07			12.36	Close
	MOSES LAKE	RM	262 C	0.000	N	47-29-20	N	16.0	205.14	188.0
	WA RSV C	9269	100.3			119-26-45			17.14	Clear
	HERMISTON		263 A	0.000	N	45-51-57	N	76.2	70.80	55.0
94534	OR VAC C		100.5			119-18-45			15.80	Close
KQFM	HERMISTON	BLH	263 A	5.300	N	45-51-57	N	76.2	70.94	55.0
27076	OR LIC C	19990520KB	100.5	91		119-18-38			15.94	Close

Figure 5B



AREA-TO-LOCATE
CHANNEL 261C2
ARLINGTON, OREGON

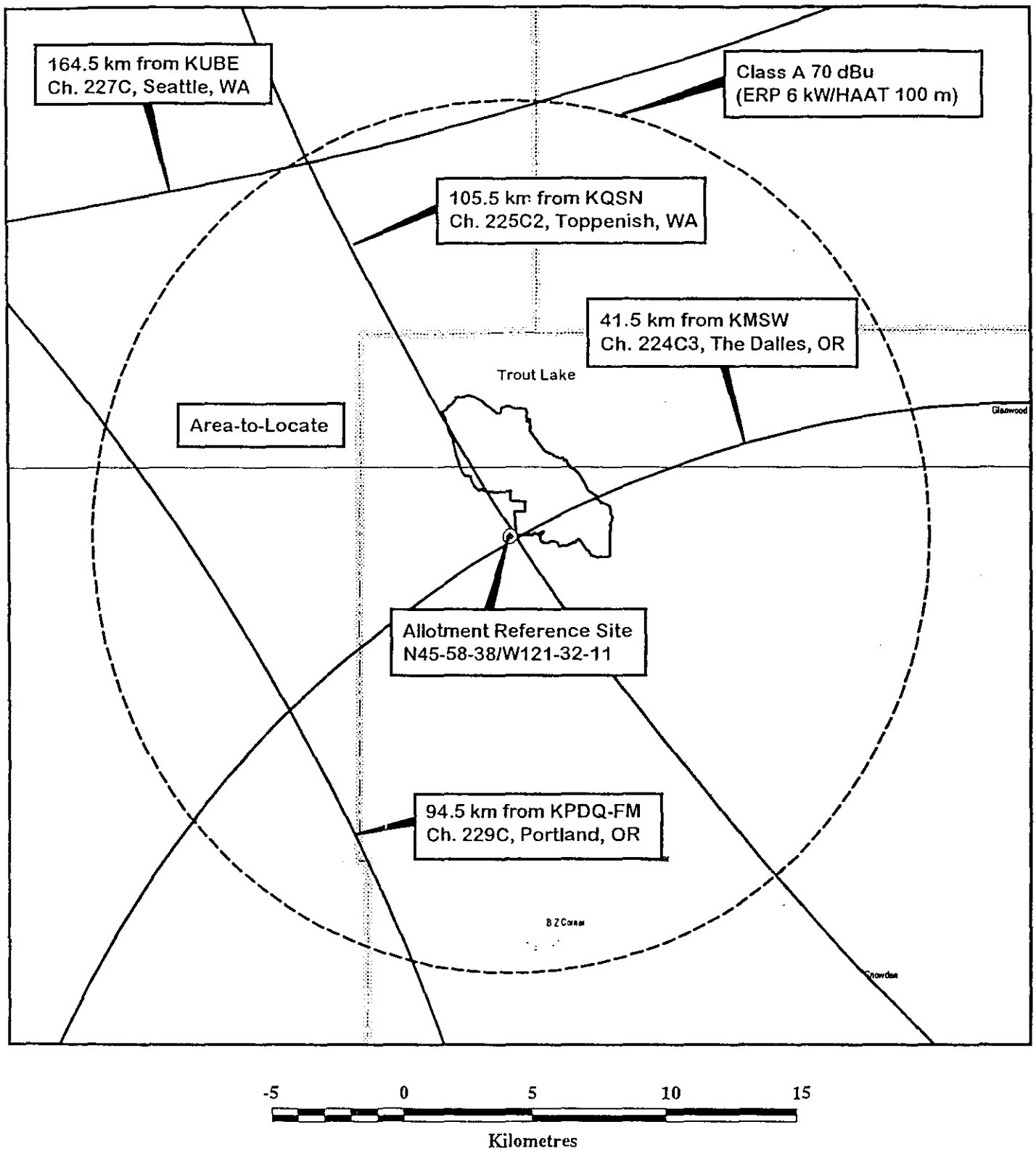
du Treil, Lundin & Rackley, Inc. Sarasota, Florida

CDBS FM SEPARATION STUDY

Job Title: Proposed Ch. 226A, Trout Lake, WA Separation Buffer: 32 km
Channel: 226 A Coordinates: 455838 1213211

Call Id	City St Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215	207
KMSW	THE DALLES	BMPH	224 C3	3.200	N	45-38-56	N	150.6	41.87	36.0	42.0
12439	OR CP C	20020307ABC	92.7	272		121-16-20			-0.13	Close	
KDBL	TOPPENISH	BLH	225 C2	17.000	N	46-30-15	N	55.9	105.90	89.0	106.0
64507	WA LIC C	19900706KF	92.9	257		120-23-33			-0.10	Close	
KKNU	SPRINGFIELD	BLH	226 C	100.000	N	44-00-04	N	210.0	252.34	203.0	226.0
40887	OR LIC C	19970925KF	93.1	396		123-06-45			26.34	Clear	
KUBE	SEATTLE	BLH	227 C	100.000	N	47-32-40	N	346.2	179.60	142.0	165.0
48387	WA LIC C	20010206AAA	93.3	387		122-06-26			14.60	Close	
KPDQ-F	PORTLAND	BLH	229 C	100.000	N	45-29-20	N	239.3	105.22	89.0	95.0
58629	OR LIC C	19900828KD	93.7	387		122-41-40			10.22	Close	

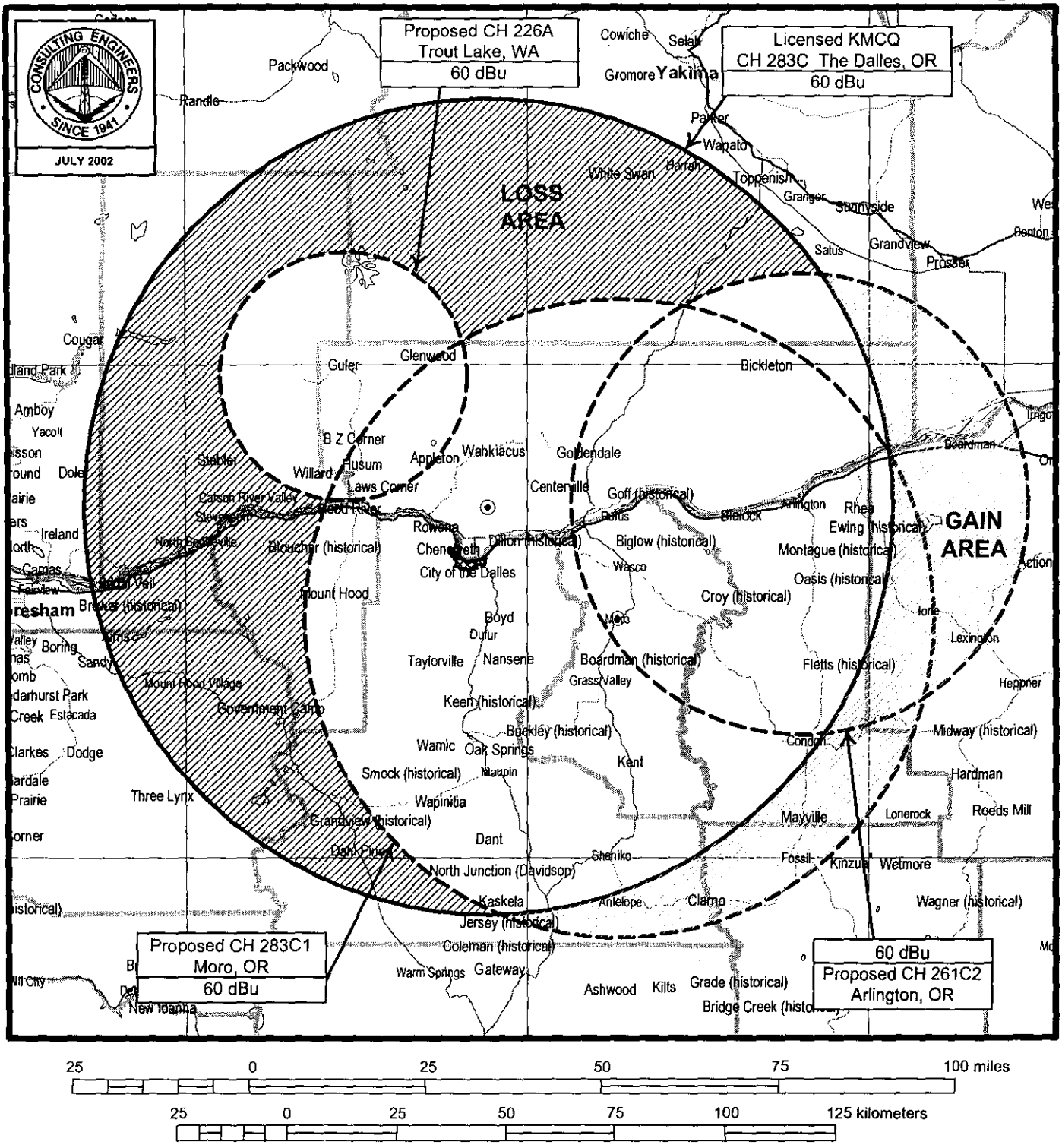
Figure 6B



AREA-TO-LOCATE
CHANNEL 226A
TROUT LAKE, WASHINGTON

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

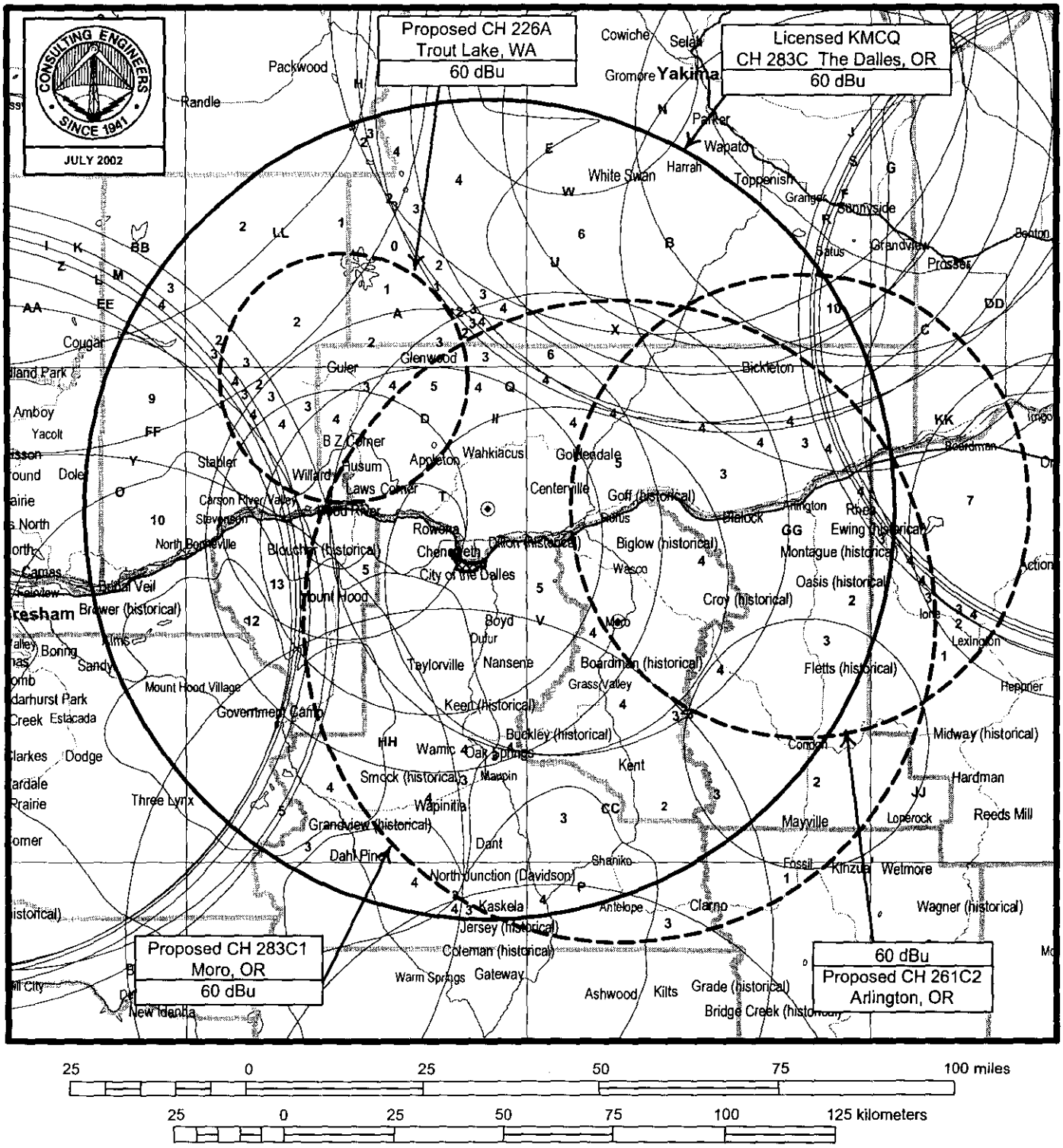
Figure 7



60 dBu GAIN/LOSS AREAS

STATION KMCQ
KENT, WASHINGTON
CHANNEL 283C2

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



OTHER AVAILABLE SERVICES

STATION KMCQ
KENT, WASHINGTON
CHANNEL 283C2

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

Figure 9

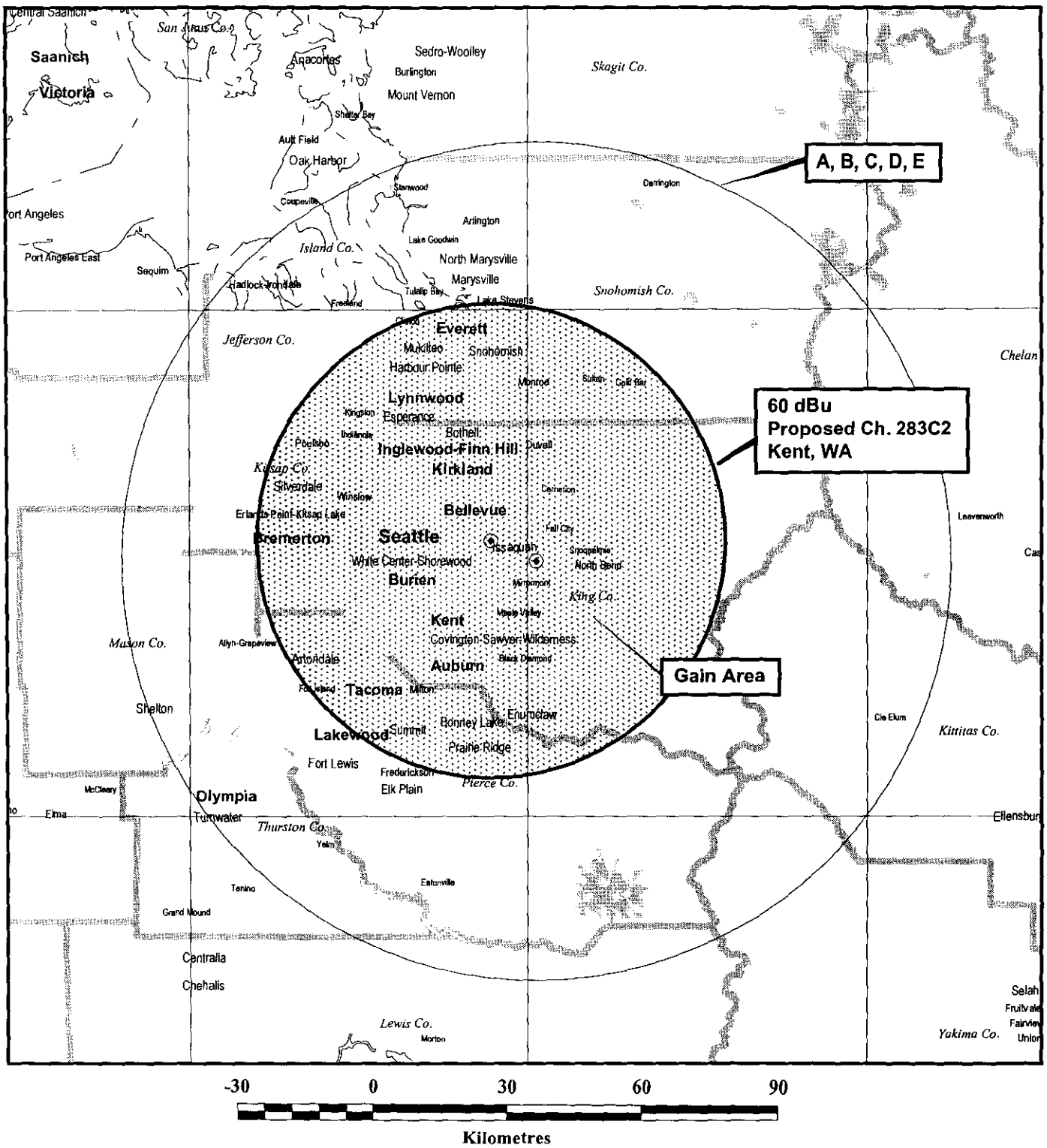
STATION KMCQ
KENT, WASHINGTON
CHANNEL 283C2

FM Stations

ID	Channel#	Call Signs	CITY	State	ERP	HAAT
A	249C2	KACI-FM	THE DALLES	OR	4.2	272
B	265C2	KARY-FM	GRANDVIEW	WA	6.9	387
C	233C1	KATS	YAKIMA	WA	100	277
D	288A	KCGB-FM	HOOD RIVER	OR	3	-140
E	220C1	KDNA	YAKIMA	WA	18.5	280
F	293C	KEGX	RICHLAND	WA	100	320
G	206C	KFAE-FM (CP)	RICHLAND	WA	100	350
H	297C	KFFM	YAKIMA	WA	100	461
I	270C	KINK	PORTLAND	OR	95	470
J	235C	KIOK	RICHLAND	WA	100	381
K	277C	KKCW	BEAVERTON	OR	100	504
L	294C	KKJZ	LAKE OSWEGO	OR	97	440
M	262C	KKRZ(CP)	PORTLAND	OR	95	470
N	254C2	KLES	MABTON	WA	VACANT	
O	204C1	KLVP-FM (CP)	CHERRYVILLE	OR	0.245	532
P	236C1	KMJZ-FM	PRINEVILLE	OR	100	144
Q	224C3	KMSW(CP)	THE DALLES	OR	3.7	259
R	287C	KONA-FM	KENNEWICK	WA	100	347
S	274C	KORD-FM	RICHLAND	WA	100	335
T	211A	KQHR (CP)	HOOD RIVER	OR	0.044	337
U	225C2	KQSN	TOPPENISH	WA	17	257
V	243C	KRCO-FM	WARM SPRINGS	OR	100	332
W	257A	KREW-FM	NACHES	WA	0.79	274
X	289C1	KRSE	YAKIMA	WA	100	178
Y	286C	KRSK	SALEM	OR	97	576
Z	266C	KUFO-FM	PORTLAND	OR	97	440
AA	253C	KUPL-FM	PORTLAND	OR	95	337
BB	298C	KVMX	BANKS	OR	VACANT	
CC	220C2	KWSO	WARM SPRINGS	OR	3	315
DD	281C1	KXDD	YAKIMA	WA	61	238
EE	238C	KXJM	PORTLAND	OR	97	386
FF	241C	KXXO	OLYMPIA	WA	72	640
GG	272C2	KYYT	GOLDENDALE	WA	2.1	571
HH	212C3	KZRI	WELCHES	OR	0.28	478
II	268C3		THE DALLES	OR	VACANT	
JJ	228A		CONDON	OR	VACANT	
KK	241C3		STANFIELD	OR	VACANT	

AM Station

ID	Call Sign	Location	Authorized Facilities		
LL	KOMO(AM)	SEATTLE, WA	1000 kHz	50 kW-N	DA-N



OTHER SERVICES TO GAIN AREA
CHANNEL 283C2
KENT, WASHINGTON

Figure 11

RADIO STATIONS CONSIDERED FOR GAIN AREA SERVICE ANALYSIS
KENT, WASHINGTON
CHANNEL 283C2

FM Stations - 1 mV/m Contours

ID	Channel	Call Sign	City	State	ERP	HAAT
A	231C	KMPS-FM	Seattle	WA	58	714
B	247C	KBSG-FM	Tacoma	WA	55	729
C	223C	KLSY-FM	Bellevue	WA	58	714
D	279C	KMTT	Tacoma	WA	58	714
E	251C	KING-FM	Seattle	WA	58	714

KENT, WASHINGTON
CHANNEL 283C2

Tabulation of Areas, Populations
And Reception Services Within 1 mV/m Coverage Contours

I. Population and Land Area Within 1 mV/m Contours

Facilities	Within 1 mV/m Contour	
	2000 Census Population	Area (km^2)
Authorized Ch. 283C The Dalles, OR	92,556	26,570
Proposed Ch. 226A Trout Lake, WA	6,464	2,461
Proposed Ch. 261C2 Arlington, OR	14,281	8,489
Proposed Ch. 283C1 Moro, OR	65,192	16,280
Proposed Ch. 283C2 Kent, WA	2,963,440	7,507

II. Population and Land Area Within Gain and Loss Areas

Area	Within 1 mV/m Contour	
	2000 Census Population	Area (km^2)
Gain	2,969,658	11,526
Loss	26,467	9,858
"Net" Gain	2,943,191	1,688

III. Available Reception Services Within Gain and Loss Areas

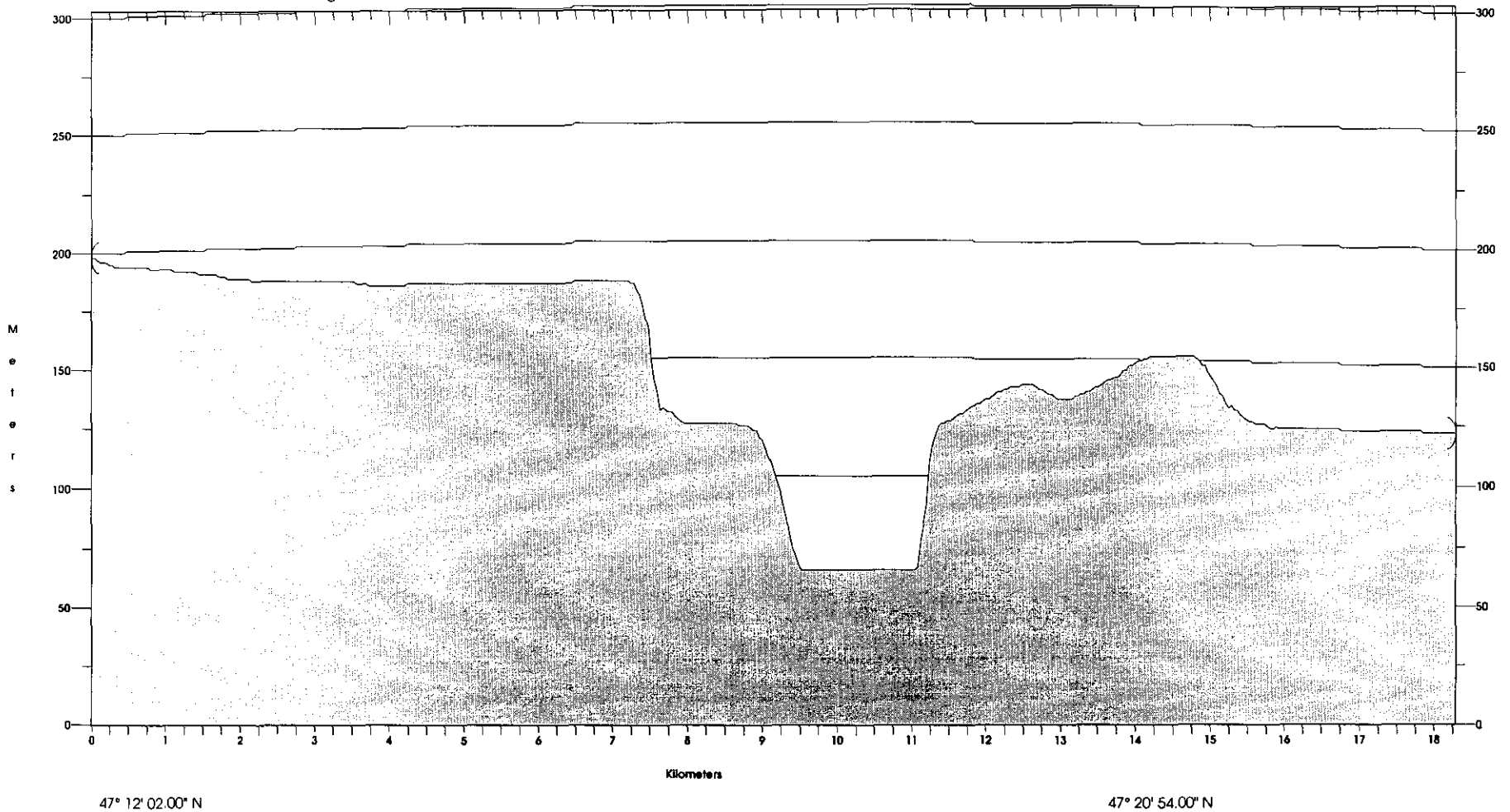
Area	No. of Services	Within 1 mV/m Contour	
		2000 Census Population	Area (km^2)
Gain	5 or more	2,967,902	9,377
	4	150	270
	3	186	371
	2	1,362	1,368
	1	58	140
Total		2,969,658	11,526

Area	No. of Services	Within 1 mV/m Contour	
		2000 Census Population	Area (km^2)
Loss	5 or more	26,323	6,721
	4	143	1,398
	3	0	324
	2	1	796
	1	0	544
	0	0	75
Total		26,467	9,858

TERRAIN PROFILE
CH 283C3 REFERENCE POINT TO COVINGTON REFERENCE POINT

Path Distance: 18.29 km.
Tx LOS Path Inclination: -0.2385 deg.

Tx LOS Path Inclination: 0.2385 deg.



47° 12' 02.00" N		47° 20' 54.00" N	
122° 00' 27.00" W		122° 06' 49.00" W	
Elevation	198.1 m.	Elevation	122.0 m.
Ant. AGL - Tx/Rx/Div	0.0/0.0/0.0 m.	Ant. AGL - Tx/Rx/Div	0.0/0.0/0.0 m.
Frequency - Tx	0.00000 MHz	Frequency - Tx	0.00000 MHz
Azimuth	333.994 deg T	Azimuth	153.916 deg T

KEY: Profile

K = 4/3 K = 4/3, F = 0.6*F1

Figure 13